**Abdominal and Pelvic Imaging Protocol Cheat Sheet 7/1/2017**

**Scott B. Reeder, MD, PhD**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Abdominal Exam** | **Indication(s)** | **Exam Details** | | **Contrast/Dose** | | **Patient Prep** | | **Eligible Scanners** | **Notes** |
| Liver Multihance | cirrhosis, HCC, portal HTN | Cor T2, Ax IOP, Ax T2, Ax T1 (pre, late art, PV, 2 min) Cor T1, Ax DWI | | Multihance  0.1 mmol/kg | | NPO 2 hours | | All | Request: Abdomen w/wo |
| Liver Eovist | Unknown focal liver lesions (hemangioma, adenoma, FNH), f/u adenoma | Cor T2, Ax IOP, Ax T2, Ax T1 (pre, late art, PV, 2min), Cor T1, Ax DWI, Ax T1 and Cor T1 at 20min | | Eovist  0.05 mmol/kg | | NPO 2 hours | | All | Request: Abdomen w/wo |
| Liver Eovist/Multihance | Metastatic disease | Cor T2, Ax IOP, Ax T2, Ax T1 (pre, late art, PV, 5min) Cor T1, Ax DWI, Ax T1 and Cor T1 at 20min before & after Multihance | | Eovist  0.05 mmol/kg,  Multihance  0.1 mmol/kg | | NPO 2 hours | | All | Request: Abdomen w/wo |
| HCC Screening | Prior MRI, no known HCC, no prior local-loco-regional therapy, to r/o new HCC | Ax T1 (pre, late art, PV, 2 min), Cor T1 | | Multihance  0.1 mmol/kg | | NPO 2 hours | | All | Request: Abdomen w/wo \*Must have previous full liver MRI from UW, no known HCC, no past locoregional Rx |
| Liver Steatosis/Fibrosis w/0 | Evaluate for diffuse liver diseases including fibrosis | MRE, IDEAL IQ, Cor T2, Ax IOP, Ax T2, Ax T1, Ax DWI | | No contrast | | NPO 4 hours | | All with an MRE unit | Request: Abdomen wo  \*Should be NPO 5 hours before MRE |
| Liver Steatosis/Fibrosis w/wo | Evaluate for diffuse liver diseases including fibrosis | MRE, IDEAL IQ, Cor T2, Ax IOP, Ax T2, Ax T1 (pre, late art, PV, 2 min) Cor T1, Ax DWI | | Multihance  0.1 mmol/kg | | NPO 4 hours | | All with an MRE unit | Request: Abdomen w/wo  \*Should be NPO 5 hours before MRE. Consider doing without contrast if no indication for contrast |
| Liver Fat/Iron Quant. | Detection and quantification of hepatic steatosis, detection and quantification of liver iron | IDEAL IQ, Ax T2 | | No contrast | | - | | All | Request: Liver Fat Iron Quant  \*Absolutely no additional sequences permitted with this protocol. |
| Liver Donor | Living donor | MRE, IDEAL IQ, Cor T2, Ax IOP, Ax T2, Ax T1 (pre, late art, PV, 2min), Cor T1, Ax DWI, Ax T1 and Cor T1 at 20min, MRA (pre, dur, post x 2) | | Eovist  0.05 mmol/kg,  Multihance  0.1 mmol/kg | | NPO 4 hours | | WIMR2 | Request: MRCP w/3D |
| Pancreatic Cyst w/o | Pancreatic cyst follow-up | Cor T2, Ax T1, Cor Obl 3D-MRCP, Ax and Cor 2D-MRCP | | No contrast | | NPO 4 hours | | All | Request: Abdomen wo  \* Only use if ordered as MRI abdomen w/o. If ordered with contrast, use MRCP Multihance |
| MRCP Multihance | Pancreatic abnormalities such as pancreatic mass | Cor T2, Ax IOP, Cor Obl 3D-MRCP, Ax and Cor 2D-MRCP Ax T2, Ax T1 (pre, late art, PV, 2 min) Cor T1, Ax DWI | | Multihance  0.1 mmol/kg | | NPO 4 hours | | All | Request: MRCP w/3D |
| MRCP Eovist | Bile ducts. Use this protocol in patients with suspected gallstone pancreatitis | Cor T2, Ax IOP, Cor Obl 3D-MRCP, Ax and Cor 2D-MRCP Ax T2, Ax T1 (pre, late art, PV, 2 min) Cor T1, Ax DWI, Ax T1 and Cor T1 at 20min | | Eovist  0.05 mmol/kg | | NPO 4 hours | | All | Request: MRCP w/3D |
| MRCP Roux-en-Y | Bile leaks, evaluate hepaticojejunostomy for anastomotic stricture | Cor T2, Ax IOP, Cor Obl 3D-MRCP, Ax and Cor 2D-MRCP Ax T2, Ax T1 (pre, late art, PV, 2 min) Cor T1, Ax DWI, Ax T1 and Cor T1 at 20, 25, 30 and 35min | | Eovist  0.05 mmol/kg | | NPO 4 hours | | All | Request: MRCP w/3D  \* Same as MRCP Eovist but with additional T1 delays |
| Renal | Evaluate renal mass before and/or after ablation | Cor T2, Ax T2, Ax IOP, Ax T1 (pre, Art, 30s, 4 min), Cor T1, DWI | | Multihance  0.1 mmol/kg | | NPO 2 hours | | All | Request: Abdomen w/wo |
| Adrenal mass | Adrenal mass | Cor T2, Ax T2, Ax IOP | | Multihance  0.1 mmol/kg | | NPO 2 hours | | All | Request: Abdomen wo  \* Generally recommend contrast, but reasonable to check whether contrast is needed |
| Abdomen/Pelvis no DWI | Generalized abdominal pain, abscess nonmalignant peritoneal process. | Cor T2, Ax IOP, Ax T1 (pre, late art, PV, post), Cor T1, Ax T2 | | Multihance  0.1 mmol/kg | | NPO 2 hours | | All | Request: Abd/Pelvis w/wo |
| Abdomen/Pelvis + DWI | Evaluation for malignancy and metastatic disease involving the abdomen and pelvis/peritoneum | Cor T2, Ax IOP, Ax T1 (pre, late art, PV, post), Cor T1, Ax T2, DWI | | Multihance  0.1 mmol/kg | | NPO 2 hours | | All | Request: Abd/Pelvis w/wo |
| Enterography | Known or suspected Crohn’s Disease | Cor Cine, Cor T2, Ax T2, Cor SSFSP or Grass, Cor T1 (pre, 40s, 2 min, Ax T1, Ax DWI | | Multihance  0.1 mmol/kg | | NPO 4 hours  Drink prep and glucagon | | All | Request: Abd/Pelvis w/wo  \* Please see memo on indications of MR enterography, only under rare exceptions is another indication acceptable. |
| Urography | Evaluate for transitional cell carcinoma within the renal pelvic, ureters and/or bladder. Evaluate for other structural abnormalities. | Cor T2, Cor 3d MRU, Ax T2, Cor T1 (pre, 40s, 2 min), Ax T1, repeat Cor T1 until ureters visualized | | Multihance  0.05 mmol/kg | | NPO 2 hours  IV fluids + optional order of lasix | | All | Request: Abd/Pelvis w/wo |
| Pregnant Appendicitis | Abdominal pain in pregnancy | Cor T2, Ax T2, Ax T1, Ax DWI | | No contrast | | - | | 1.5T only | Request: Abdomen wo  \* no gadolinium |
| **Pelvic MRI Exam** | **Indication(s)** | | **Exam Details** | | **Contrast/Dose** | | **Patient Prep** | **Eligible Scanners** | **Notes** |
| Prostate 3T  Surface Coil | Vast majority of prostate should be performed at 3T with surface coil including pre-biopsy rising PSA, negative biopsy rising PSA, pre-surgical planning. | | Sag T2, Obl Ax T2, Obl Ax DWI (b800, b1500), Obl Cor T2, Obl Ax T1, Obl Ax T1 Dynamic, Post Ax T 1 | | Multihance  0.1 mmol/kg | | NPO  2 hours  Glucagon | 3T | Request: Pelvis w/wo |
| Post Prostatectomy | Rising PSA in a patient status post-prostatectomy | | Ax T2, Sag T2, Ax T1, DWI (b800, b1500, Ax T1 Dynamic, Post Sag T1, Post Ax T1 | | Multihance  0.1 mmol/kg | | NPO  2 hours | 3T | Request: Pelvis w/wo |
| Prostate pre-radiation Rx | Known prostate cancer, radiation therapy planning | | Sag T2, Ax T2, Ax DWI (b800, b1500) Cor T2, Ax T1, Ax T1 Dynamic, Post Ax T 1, Ax T2 CUBE | | Multihance  0.1 mmol/kg | | NPO  2 hours  Glucagon | 3T | Request: Pelvis w/wo  \*Add Ax T2 CUBE to 3T Prostate protocol for SBRT |
| Prostate 1.5T  Endorectal Coil | Patients with very large abdominal pannus or with metallic hip prostheses – 1.5T to reduce distortion | | Sag T2, Obl Ax T2, Obl Ax DWI (b800, b1500), Obl Cor T2, Obl Ax T1, Obl Ax T1 Dynamic, Post Ax T 1 | | Multihance  0.1 mmol/kg | | NPO  2 hours  Glucagon | 1.5T | Request: Pelvis w/wo |
| Urethra | Urethral diverticulum | | Sag T2, Obl Ax T1 (pre, 70s, 3 min), Obl Ax T2, Ax T2, Ax T2 CUBE, post void Obl Ax T1 | | Multihance  0.1 mmol/kg | | NPO  2 hours | All | Request: Pelvis w/wo  \*Patient will need to void after contrast |
| Rectal Cancer Staging | Known rectal cancer for TNM staging | | Sag T2, Ax T2, Cor T2, Short Axis T2, Long Axis T2, Ax DWI, Ax T1 (pre, 70s), Sag T1, Ax T2 Fat | | Multihance  0.1 mmol/kg | | NPO  4 hours  Fleets enema  Rectal gel  Glucagon | All | Request: Pelvis w/wo |
| Perianal Fistula | Known or suspected perianal fistula | | Sag T2, Obl Ax T2 Fat, Obl Cor T2, Obl Cor T2 Fat, Ax T2 CUBE, Obl Ax T1 (pre, 70s), Cor T1 | | Multihance  0.1 mmol/kg | | NPO  2 hours | All | Request: Pelvis w/wo |
| Fetal Head/Spine | Evaluate congenital abnormality | | Cor T2, Sag T2, 3 planes T2 Brain, 3 planes T2 Spine. Optional T1, PseudoSwan, DWI | | No contrast | | 9:00am scan time if possible, NPO 2 hours, no caffeine | CSC only | Request: MRI Fetal  \* no gadolinium |
| Fetal Neck/C/A/P | Evaluate congenital abnormality | | Cor T2, Sag T2, 3 planes C/A/P, Sag Cor T1 Abd, Sag Cine, 3 planes T2 Brian | | No contrast | | 9:00am scan time if possible, NPO 2 hours, no caffeine | CSC only | Request: MRI Fetal  \*no gadolinium |
| Fetal Uterine/Placenta | Evaluate placenta and gravid uterus for complications during pregnancy | | Cor T2, Sag T2, obl T2 to visualize pathology, optional T1 | | No contrast | | 9:00am scan time if possible, NPO 2 hours, no caffeine | CSC only | Request: MRI Fetal  \*gadolinium contraindicated  \* Kliewer, Robbins, or Sadowski need to be at the scanner for the prescription of the planes |
| Bladder Cancer | Bladder cancer staging | | Sag T2, Ax T2, Cor T2, Ax DWI, Sag DWI, Ax T1 (pre, 40s, 90s, 2 min) Post Sag T1, Post Cor T1 | | Multihance  0.1 mmol/kg | | NPO  2 hours | All | Request: Pelvis w/wo |
| Penile | Penile mass, Peyronie'sdisease | | Sag T2, Ax T2, Sag T1 (pre, 90s) Ax T1 (pre, 40s, 2 min) | | Multihance  0.1 mmol/kg | | NPO  2 hours | All | Request: Pelvis w/wo  \*Place marker on lesion Position Penis up toward belly button (try not to compress tissue use towels surrounding it.) |
| Malignant Female Pelvis | Stage and assess treatment response of endometrial CA and cervical CA | | Sag T2, Sag DWI, Ax T2, Ax DWI, Obl Ax BOLD, Ax T1 (pre, 40), Sag T1 90s, Post Ax T1 | | Multihance  0.1 mmol/kg | | NPO  2 hours  Vaginal gel | MR750 or 1.5T | Request: Pelvis w/wo  \*Do not scan on MR750w |
| Uterine Anomalies w/o | Known or suspected uterine anomalies, infertility | | Cor T2, Sag T2, Ax T2, Ax T2 CUBE, Ax T1, Obl Cor T2 | | No contrast | | Vaginal gel | All | Request: Pelvis wo |
| Benign Female Pelvis w/wo | Fibroids, dysfunctional uterine bleeding | | Sag T2, Ax T2, Pre -Ax T1, Sag Dyn T1, Post-Ax T1 | | Multihance  0.1 mmol/kg | | NPO  2 hours | All | Request: Pelvis w/wo |
| Adnexal Mass | Adnexal mass: solid, cystic, hemorrhagic lesion, endometrioma, dermoid, etc. | | Cor T2, Ax T2, Ax DWI, Pre-Ax T1, Ax Dyn T1, Post Ax T1 | | Multihance  0.1 mmol/kg | | NPO  2 hours | All | Request: Pelvis w/wo |
| Brachytherapy | Assess placement of brachytherapy tandem unit | | Sag T2, Ax T1, Ax T2, Obl Ax BOLD, Ax DWI | | No contrast | | General anesthesia | 1.5T | Request: Pelvis wo |